

and creating a new Subpart E to Part 15 containing technical rules governing operation within the band.

The NII Band should be "co-primary" with other currently authorized spectrum users, subject to appropriate sharing rules developed as part of the rulemaking proceeding to protect existing and planned authorized uses of the band.⁴³ ISM devices would continue to be permitted to operate in the upper half of the NII Band, although restricted emission masks or other protections should be considered to assure that these devices do not make it impossible or impracticable for the band to be used for communications purposes (both by NII Band devices or by other authorized users). Existing Part 15 operations would be subsumed within the NII Band allocation and technical rules.

- **Equitable sharing of the spectrum resource:** The NII Band should be a resource shared equitably by all users, and no device, user, or type of communication should be entitled to monopolize the spectrum resource or deny others access to the band. This is the defining characteristic of unlicensed operation and the principal distinction between unlicensed and licensed operation.
- **Additional technical standards should be developed by a representative industry body.** Beyond the basic conditions described in the previous paragraphs, the Commission's rules should not dictate particular access or inter-operation rules (*e.g.*, channelization, permitted bandwidths, minimum transmission speeds, the use of centralized control mechanisms, etc.) for the NII Band. Instead, specific standards should be developed and adopted by a representative industry body, composed of a broad cross-section of companies involved in the information industry, including computer companies and experts on the Internet. This body should be directed to adopt rules that are as inclusive as possible and impose only those constraints needed to assure equitable sharing. Following adoption, these rules would be "approved" by the FCC in a process resembling the one currently used by the FCC, for example, in regulating the

(in conjunction with NTIA) from authorizing any new services in the band, and then formally upgrade the allocation to a primary allocation following the adoption of an appropriate allocation at a future WRC.

⁴³ It is possible that NII Band operation will need to be secondary to certain critical government uses. Apple's preliminary belief is that appropriate sharing rules that will prevent interference by NII Band devices, perhaps coupled with a condition that NII Band devices may not claim protection from interference from government users, would be preferable to all. This, however, can be resolved as part of the rulemaking proceeding when adequate information is available to assess the potential for objectionable interference and the possibilities for mitigating such potential interference.

health hazards of RF devices and measurement standards for certain Part 15 unintentional radiators.⁴⁴

This approach will provide additional flexibility, promoting future developments in the technical rules and avoiding long, complicated rulemaking proceedings to accommodate such developments.⁴⁵

- **Power levels/antenna types:** The rules should authorize transmitters power levels of up to one watt and should permit the use of both omnidirectional and directional antennas without limits on EIRP.⁴⁶

D. The FCC Does Not Need To Resolve All of the Differences Between the Apple and WINForum Proposal Prior to Adopting an NPRM

There are, of course, certain respects in which the Apple and WINForum Petitions differ. The most important distinctions lie in the areas of priority access/centralized control, channelization, mandatory transmission speeds, and HIPERLAN interoperability.

The Commission, however, need not resolve the differences between the Apple and WINForum Petitions prior to issuing an NPRM. Rather, these questions should be addressed by all affected parties in the context of a rulemaking proceeding, as well as in the process designated for developing the appropriate sharing rules for the NII Band.

⁴⁴ See Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Notice of Proposed Rulemaking, ET Docket No. 93-62, 8 FCC Rcd 2849 (1993) (proposing to update the Commission's RF radiation exposure guidelines to reflect the 1992 ANSI/IEEE standard); Revision of Part 15 of the Rules to Harmonize the Standards for Digital Devices With International Standards, Report and Order, ET Docket No. 92-152, 8 FCC Rcd 6772 (1993) (permitting applicants for authorization of a digital device to demonstrate compliance using standards developed by the International Special Committee on Radio Interference ("CISPR")).

⁴⁵ Modifications to the industry standard would be effective when recognized by the FCC.

⁴⁶ By permitting the use of directional antennas, the NII Band would accommodate uses that cannot be met under the existing Part 15 spread spectrum rules — such as longer-distance links and wider-area networks. Such operation has already been requested by at least one entity. See Western Multiplex Corp. Petition for Rulemaking, RM-8435 (filed January 5, 1994) (requesting that the Commission delete the second sentence of Section 15.247(b) and, thereby, remove the power penalty imposed on transmitters using directional antennas). Because rules governing access would take into consideration the use of directional antennas, such use would not threaten others operating at lower effective powers via omnidirectional antennas.

E. The NPRM Should Seek Additional Comments Regarding Inter-Service Sharing.

As discussed in Apple's Petition, the NII Band should be able to share spectrum with other authorized users. Preliminary, informal discussions with some of these other users (in particular, NTIA — representing government spectrum users — the Part 15 coalition, as well as operators and organizations in the Amateur Radio Service), as well as more formal discussions during the rulemaking process, will help all parties understand better the type and scope of existing and planned operation within and adjacent to the two 150 MHz bands proposed for the NII Band. Apple continues to be hopeful that appropriate sharing solutions can be identified and implemented.

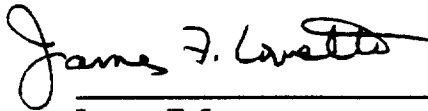
Currently, however, for several reasons there is incomplete information publicly available regarding existing and proposed uses of the two 150 MHz band segments proposed by Apple. Some of these bands are used for non-public government (including military) communications; other uses (such as MSS feeder links) have not yet been finalized; still others (such as the Microwave Landing System) are currently uncertain and may never develop; and still others (such as the Amateur Service) are non-commercial services and may be subject to different uses depending on the user or the region. Moreover, to the extent that sharing has been addressed, this has principally been discussed in the context of the European HIPERLAN efforts; while the NII Band would allow HIPERLAN along with other modes of operation, it may differ in some potentially material respects (particularly in terms of anticipated outdoor use). As a result, additional information from users — in particular, the likelihood that they will use their allocated spectrum and, if so, the exact characteristics of their existing and proposed operations — should be gathered and analyzed. These users should be provided an opportunity to demonstrate any respects in which they believe the NII Band could cause unacceptable interference to their operations, and Apple welcomes the opportunity to work with them to develop mutually acceptable sharing solutions.

CONCLUSION

For the reasons discussed above and in Apple's Petition, Apple urges the Commission promptly to adopt an NPRM proposing a 5 GHz "NII Band" unlicensed allocation.

Respectfully submitted,

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July 10, 1995

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Comments of Apple Computer, Inc. was sent by first-class mail, postage prepaid, this 10th day of July, 1995, to each of the following:

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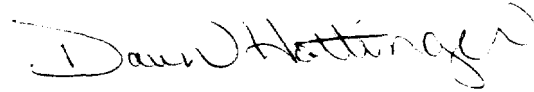
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A handwritten signature in cursive script that reads "Dawn Hottinger".

/s/ Dawn Hottinger
Dawn Hottinger

* By Hand